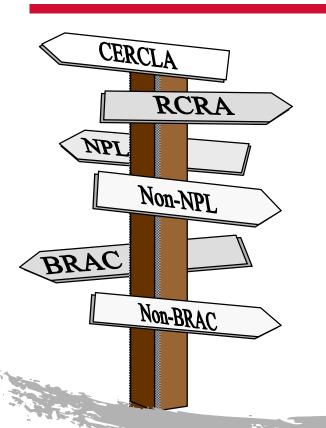
The Road to Site Closeout



"Finishing the Job"

Jim Daniel Army Environmental Center (410) 671-1501 jdaniel@aec2.apgea.army.mil Mary Sanderson EPA Region 1 (617) 573-5711 sanderson.mary@epamail.epa.gov



"We are at the beginning of the end of our cleanup program."

-Sherri W. Goodman

Deputy Under Secretary of Defense (Environmental Security)



Program Focus is Changing

- **To Date:** Last Remedy in Place (LRIP)/ Construction Completion(CC)
- Today: Identifying requirements beyond LRIP/CC
- Tomorrow: Complete cleanup and close out sites

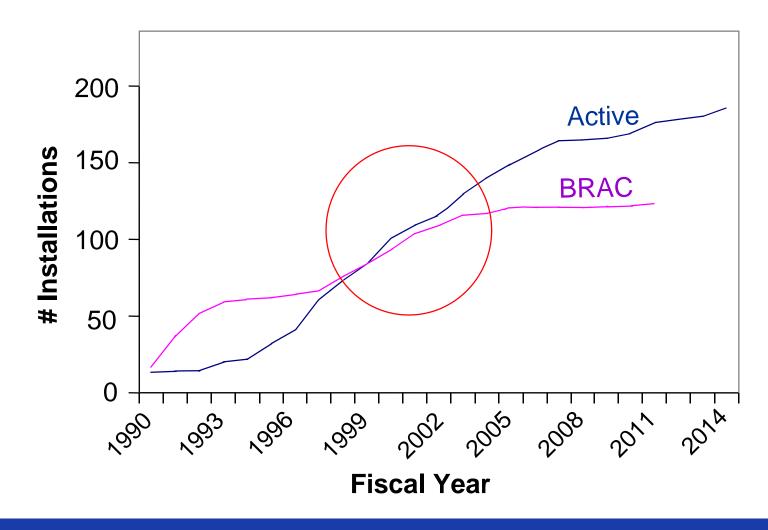
Issues and Challenges Beyond LRIP/CC

■ Conventional Wisdom: Everyone is happy after LRIP/CC is achieved!

■ Reality: Requirements to reach site closeout extend beyond LRIP/CC and raise new types of issues and challenges! However,

"One size doesn't fit all"

Cumulative RIP/RC Army Installations





Site Closeout Considerations

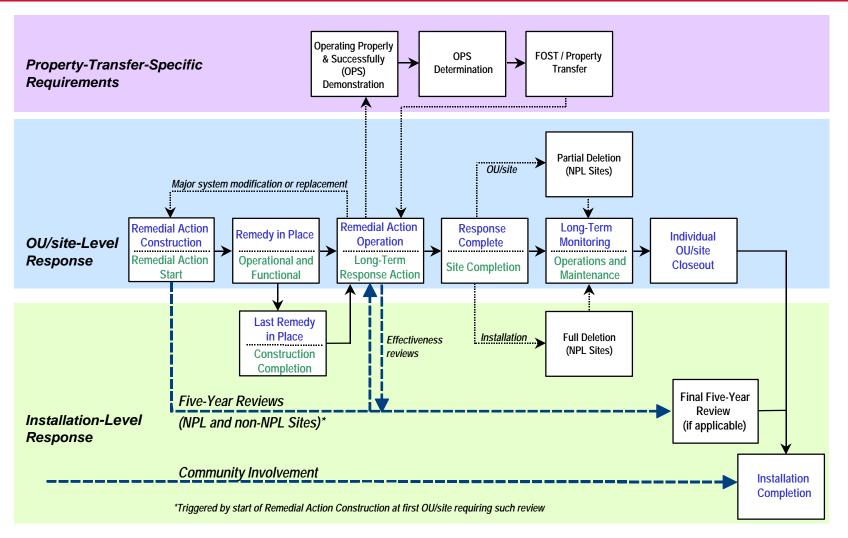
- **CERCLA and RCRA Corrective Action sites**
- NPL and Non-NPL facilities
- **BRAC and Non-BRAC installations**
- **Federal and State regulatory requirements**
- **Community involvement**

Comparison of Milestones/Terminology*

| DoD Milestones | CERCLA Milestones | RCRA Milestones |
|--|--|--|
| Site Discovery | Site Discovery | RCRA Facility Assessment |
| Preliminary Assessment/ Site Investigation | Preliminary Assessment/ Site Investigation | |
| Remedial Investigation | Remedial Investigation | RCRA Facility Investigation |
| Feasibility Study | Feasibility Study | Corrective Measures Study |
| Record of Decision | Record of Decision | Statement of Basis |
| Remedial Design | Remedial Design | Corrective Measures |
| Remedial Action – Construction | Remedial Action | Implementation |
| Remedy in Place | | |
| Remedial Action – Operation (if required) | (including RA-Start, Operational and Functional Determination, RA- Complete, and Long-Term Response Action [if required]) | (including design, construction, operation, maintenance, and monitoring) |
| Last Remedy in Place | Construction Completion (all OUs/Entire Installation) | |
| Response Complete | (all OUs/Entire Installation) | |
| | NPL Deletion | _ |
| Long-Term Monitoring (LTM) | Operation and Maintenance (including LTM) | |
| | | Corrective Measures |
| | | Completion |
| Site Closeout | | |

^{*} States may have similar or analogous milestones or terminology.

Site Closeout Process





Site Closeout Requirements: What Remains?

"Cleanup, Cleanup, Cleanup"

- Operation and maintenance of cleanup systems
- **Implementing/monitoring institutional controls**
- **Findings of Suitability to Transfer (FOSTs), Deeds**
- Community involvement
- **Performance reviews for cleanup systems**
- Cleanup system modifications/upgrades/security
- **Final close out reports for installations**
- **Long-term monitoring**
- Cleanup system/monitoring well decommissioning
- Deletion from National Priorities List



Mather AFB Air Stripping Treatment Plant





March AFB Groundwater Extraction Well





Site Closeout Challenges

- Leaving contamination in place
- Community concerns about process
- Ineffective cleanup systems
- Remedy in place disturbed
- Security/integrity of cleanup systems
- Effectiveness of institutional controls
- Future changes in land use and continued protectiveness
- Discovery of additional contamination
- Perception of leaving before the job is complete



DoD Site Closeout Tools/Resources

- Air Force Long-Term Monitoring Optimization Guide, Oct 97
- Air Combat Command Site Closure Guidance Manual, Dec 97
- Army Practical Guide to NPL Completion and Deletion Procedures, Dec 94
- Air Force No Further Response Action Planned (NFRAP) Guide, Jun 95
- Air Force Operating Properly and Successfully Guidance, Dec 97
- DoD Institutional Controls Guide, Mar 98

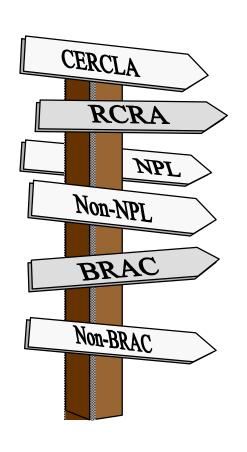


EPA Site Closeout Tools/Resources

- Close Out Procedures for NPL Sites
 - OSWER Directive 9320.2-09, Aug 1995
- Structure and Components of Five-Year Reviews
 - OSWER Directive 9355.7-02, May 1991
- Supplemental Five-Year Review Guidance
 - **OSWER Directive 9355.7-02A, Jul 1994**
- Operating Properly and Successfully Guidance
 - ➤ Federal Facilities Restoration and Reuse Office, Aug 1996
- Procedures for Partial Deletions at NPL Sites
 - OERR Directive 9320.2-11, Apr 1996



Site Closeout Working Group



■ DoD, Services, EPA, and States

- **Working Group Internet Web Site**
 - http://www.afbca.hq.af.mil/closeout
- Working Draft Documents
 - > Environmental Site Closeout Process, Jan 98
 - Site Closeout Process Guide Introduction, May 98
- Interim Final Site Closeout Process Guide, Summer 98 (projected)

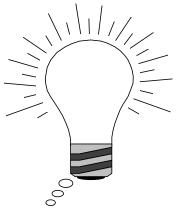
Summary

- Cleanup requirements remain beyond LRIP/CC to achieve site closeout
- Partnering among stakeholders (Services, regulatory agencies, and communities) necessary to determine requirements and address challenges
- Adequate funding required to complete cleanup and address site closeout challenges



Role of BCTs

- Understand Federal and State requirements for various components of the site closeout process
- Ensure "Beyond LRIP/CC" requirements are fully characterized and budgeted for
- Consider innovative, flexible, and streamlined approaches to expedite site closeout and manage costs



BCT Workshops - What's Available?

- **Tomorrow Technical Breakout Sessions**
 - Site Closeout (1:30 p.m.)
 - > RAO/LTM Optimization (3:30 p.m.)
- **Environmental Site Closeout Process Guide**
 - > Introduction Working Draft

